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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,676	04/30/2001	Richard L Pressley	12077US05	7887

7590 03/14/2003

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EXAMINER

UPTON, CHRISTOPHER

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

763676

Applicant(s)

Pressley et al

Examiner

Upm

Group Art Unit

1724

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 2/3/03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 18-24 is/are pending in the application.
- Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- ☒ Claim(s) 23 is/are allowed.
- ☒ Claim(s) 18, 19 and 24 is/are rejected.
- ☒ Claim(s) 20 is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokarnik et al, Okumura et al, Chang, or Kite in view of Bringle, Wickens et al, Hayes et al, Tsumura et al, or Okey et al.

Zlokarnik, Okumura, Chang and Kite disclose biological treatment with jet aeration of recirculated biosolids solution, substantially as claimed. The claims differ in recitation of monitoring and adjusting a physical property and adjusting the mixing of the solution with the gas. It is well known to use a physical property to control the oxygen in a biological treatment system, as exemplified by control by ORP disclosed by Hayes, Tsumura and Okey, or control of dissolved oxygen as exemplified by Bringle and Wickens. It would therefore have been obvious for one of ordinary skill in the art to monitor the ORP or dissolved oxygen of Zlokarnik, Okumura, Chang and Kite, to control the aeration process.

With respect to claim 18, which recites thermophilic bacteria, it is submitted that Hayes discloses the thermophilic treatment of sludge.

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3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokarnik et al, Okumura et al, Chang, or Kite in view of Hayes et al, Tsumura et al, or Okey et al.

Zlokarnik, Okumura, Chang and Kite disclose biological treatment with jet aeration of recirculated biosolids solution, substantially as claimed. The claim differs in recitation of means for adjusting the aeration device in response to the oxidation-reduction potential. It is well known to use ORP to control the oxygen in a biological treatment system, as exemplified by Hayes, Tsumura and Okey. It would therefore have been obvious for one of ordinary skill in the art to monitor the ORP of Zlokarnik, Okumura, Chang and Kite, to control the aeration process.

With respect to the recitation of a concentrating step prior to treatment, it is submitted that Hayes discloses the thermophilic treatment of sludge, which has been concentrated in a clarifier.

4. The terminal disclaimer filed on February 3, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration dates of U. S. Patents 5,948,621, 6,168,717 and 6,203,701 has been reviewed and is accepted. The terminal disclaimer has been recorded.

5. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Claim 23 is allowed.

The recitation of a process and apparatus for aerobic treatment of wastewater biosolids comprising a reactor with a jet aerator which is controlled by measurement of both the temperature and oxidation-reduction potential of the solution patentably distinguishes over the prior art of record.

6. Applicant's arguments filed on February 3, 2003 have been fully considered but they are not persuasive.

Applicant argues that the prior art does not disclose the control of a jet aeration system in response to a physical property, such as oxygen or oxidation-reduction potential. It is submitted that the prior art discloses the control of a variety of aeration systems, implying that aeration systems in general may be so controlled, and that, therefore, the specific type of aeration system controlled fails to patentably distinguish over the prior art. For example, Hayes discloses surface aeration in figure 1, a turbine system in figure 2 and a diffuser in figure 3. Tsumura and Wickens disclose control of diffusers, Bringle discloses a turbine system, and Okey is silent as to the specific type of aerator.

Applicant's attention is also directed to the Steel and McGhee textbook, which discloses a variety of aeration systems, including jet, turbine and diffused systems, and which suggests that the selection of a specific type of aerator should be made by

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taking a variety of factors into consideration, thus also implying that one known type of aerator may be substituted for another, depending on such considerations.

7. Any inquiry concerning this communication should be directed to Christopher Upton at telephone number (703) 308-3741.

A handwritten signature in black ink, appearing to be 'CU' followed by a stylized flourish.

**CHRISTOPHER UPTON  
PRIMARY EXAMINER**